APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,155	10/03/2000	Michael J. Natkin	07844-479001 / P443	7449

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EXAMINER
CHUONG, TRUC T

ART UNIT	PAPER NUMBER
2174	

DATE MAILED: 11/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		**Applicant(s)**	
Office Action Summary	09/680,155		NATKIN ET AL.	
	Examiner		**Art Unit**	
	Truc T Chuong		2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *14 August 2003* .

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-50* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-3,5-14,16-20,22-37,39-43 and 45-50* is/are rejected.

7) ☒ Claim(s) *4,15,21,38 and 44* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1.   This communication is responsive to Amendment A, filed 08/14/03.

2.   Claims 1-50 are pending in this application. Claims 1, 5, and 28 are independent claims.

In Amendment A, claims 1, and 3-4 are amended. Claims 5-50 are new claims. This action is

made final.

3.   The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior office action.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

5.   Claims 9, 10, 32, and 33 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

The term "may be" or "may" in claims 9, 10, 32, and 33 is a relative a term which renders

the claim indefinite. The term "may be" or "may" is not defined by the claim, the specification

does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the

art would not be reasonably apprised of the scope of the invention. Appropriate corrections are

required.

Claim Rejections - 35 USC § 102

6.   Claims 1-3, 5-14, 16-20, 22-37, 39-43, and 45-50 are rejected under 35 U.S.C. 102(b) as

being anticipated by Miller et al. (U.S. Patent No. 5,801,685).

As to claim 1, Miller teaches a computer program product, tangibly stored on a computer-

readable medium, for calculating the validity of a cached frame of a movie in a movie

compositing system, comprising instructions operable to cause a programmable processor to:

maintain a global editing timestamp that is updated with each editing operation

performed by the system, the global editing timestamp representing an edit sequence position in

a sequence of edits made to the movie (editing time line, col. 6 lines 28-38);

establish an interval list for each node in a compositing tree defining a movie, each node

having a timeline that maps to a master timeline of the movie, an interval list for a node

including, for each interval in the node's timeline, a single editing timestamp (col. 18 lines 54-

67);

update the interval list for a node when the node is edited (updating of the EDL, col. 5

lines 26-42); and

use the interval list for a first node to evaluate the validity of a cached frame for a

particular interval of the master timeline, the cached frame having been produced by compositing

the first node in the compositing tree (a database listing of video clips, col. 9 lines 34-55), the

evaluation being performed by (a) comparing (i) an editing timestamp associated with the cached

frame with (ii) the editing timestamps of intervals in the interval list that map to at least a portion

of the interval of the master timeline, and (b) treating the cached frame as invalid if any of the

intervals' editing timestamps is later than the editing timestamp associated with the cached frame

(calculating offset time, col. 5 lines 25-65, col. 16 lines 25-67, col. 17 lines 45-67, and col. 18 lines 54-67).

As to claim 2, Miller teaches the product of claim 1, further comprising instructions to:

use the interval lists of all nodes below the first node in the tree to evaluate the validity of the cached frame (col. 5 lines 26-65).

As to claim 3, Miller teaches the product of claim 1, wherein:

updating the global timestamp comprises incrementing the global timestamp (updating the EDL, col. 26-59); and

the interval list is stored as a series of pairs (interval, timestamp), the series being sorted by the intervals (EDL is used by the system to play back the video clips in the defined order and play-time duration, col. 6 lines 39-52).

As to claim 5, Miller teaches a computer program product, tangibly stored on a machine-readable medium, for displaying a frame of a movie composition, the product comprising instructions operable to cause a programmable processor to:

associate edit sequence information with an element of the movie composition, the edit sequence information specifying, for an interval of the element's timeline, an edit sequence position representing the position in a sequence of edits made to the movie composition of a most recent edit made that affects the element during the interval, the interval being a portion of the timeline (editing time line, col. 6 lines 28-38);

when caching a frame, associate with the cached frame an edit sequence position that represents a state of editing of the movie composition (col. 5 lines 18-42, and col. 6 lines 28-37); and

when displaying the frame, compare the edit sequence position associated with the

cached frame with edit sequence information associated with the element (col. 5 lines 26-50, and

col. 6 lines 28-37).

As to claim 6, Miller teaches the product of claim 5, wherein:

the edit sequence position that represents a state of editing of the movie composition

includes the edit sequence position of a most recent edit made to the movie composition (first

source frame, col. 6 lines 28-37).

As to claim 7, Miller teaches the product of claim 5, further comprising instructions to:

in response to an edit made to the movie composition, update the edit sequence

information (automatically update the EDL, col. 13 lines 44-59).

As to claim 8, Miller teaches the product of claim 7, wherein:

the instructions to compare include instructions to compare the sequence position

associated with the cached frame with the updated sequence information (col. 16 lines 44-67).

As to claim 9, Miller teaches the product of claim 5, further comprising instructions to:

for an edit made to the movie composition, identify an interval of the element's

corresponding timeline that may be affected by the edit (reflect the effect, col. 13 lines 44-51).

As to claim 10, Miller teaches the product of claim 9, wherein:

the identified interval is the maximum range during which the edit may affect the element

(EDL will automatically amended, col. 13 lines 37-43).

As to claim 11, Miller teaches the product of claim 5, further comprising instructions to:

for an edit made, identify an interval of the element's corresponding timeline that is

affected by the edit (col. 13 lines 44-51).

As to claim 12, Miller teaches the product of claim 5, wherein instructions to compare include instructions to:

identify the edit sequence position of the most recent edit from the sequence information associated with the element (col. 6 lines 28-37); and

compare the edit sequence position associated with the cached frame with the identified edit sequence position (col. 5 lines 18-42, and col. 6 lines 28-37).

As to claim 13, Miller teaches the product of claim 5, wherein the sequence information associated with the element is placed into groups, the product further comprising instructions to:

identify the most recent edit sequence information for each group (first source frame, col. 6 lines 28-37).

As to claim 14, Miller teaches the product of claim 5, wherein:

the edit sequence information includes an interval list, the interval list specifying, for each interval of the element's timeline, the edit sequence position representing a position in a sequence of edits made to the composition of a most recent edit made that affects the element during the interval (col. 11 lines 14-56).

As to claim 16, Miller teaches the product of claim 15, wherein:

the movie composition has a master timeline to which the element's timeline maps, the master time line including a start time and a stop time; the first interval listed in the element's interval list has a start time that precedes the start time of the composition's master timeline; and the last interval listed in the element's interval list extends beyond the stop time of the composition's master timeline (col. 13 lines 28-51).

As to claim 17, Miller teaches the product of claim 15, further comprising instructions to:

for an edit, determine the start time and duration of an interval when the edit may affect

the element, and define new intervals in the interval list if the interval list does not include an

interval having the start time and duration of the determined interval, the new intervals being

defined based on the start time and the duration of the determined interval (the EDL may be

adjusted in response to a script text change by setting the edit start time in the EDL, col. 5 lines

18-25).

As to claim 18, Miller teaches the product of claim 17, wherein:

the instructions to define new intervals include instructions to define new intervals such

that the intervals in the interval list do not overlap (col. 13 lines 28-51).

As to claim 19, Miller teaches the product of claim 17, further comprising:

associate the edit sequence position of the edit with the determined interval

(simultaneously play back the video portion of the performance, col. 10 lines 1-42).

As to claim 20, Miller teaches the product of claim 15, wherein:

the edit sequence position is represented by an integer (col. 15 lines 10-44).

As to claim 22, Miller teaches the product of claim 14, further comprising instructions to:

when displaying the frame, identify the interval of the interval list that affects the frame

and compare the edit sequence position associated with the cached frame with the edit sequence

position listed in the interval list for the identified interval (col. 5 lines 18-42, and col. 6 lines 28-

37).

As to claim 23, Miller inherently teaches the product of claim 14, further comprising

instructions to:

maintain a first interval list for a first type of type of edits and a second interval list for a

second type of edits because Miller's EDL edits data from many different sources (fig. 2).

As to claim 24, Miller teaches the product of claim 23, further comprising instructions to:

in response to an edit to the composition, identify one or more interval lists to update; and

update the identified interval lists (edit ID, col. 15 lines 10-44).

As to claim 25, Miller teaches the product of claim 5, wherein:

the element is a first element and the movie composition includes multiple elements (col.

18 lines 54-67); and

the elements of the movie composition are nodes in a compositing tree, a parent node in

the compositing tree being affected by changes to a child node in the compositing tree, the

product further comprising instructions to: when displaying the frame, identify one or more

elements that are child nodes of the first element the instructions to compare including

instructions to compare the edit sequence position associated with the cached frame with the edit

sequence information associated with the one or more elements identified as child nodes of the

first element (col. 5 lines 25-65, col. 16 lines 25-67, col. 17 lines 45-67, and col. 18 lines 54-67).

As to claim 26, Miller teaches the product of claim 5, wherein:

the element is a first element and the movie composition includes multiple elements; and

the first element collaterally depends and one or more other elements in the movie

composition, an element that is collaterally dependent on another element being affected by the

other element, the product further comprising instructions to: when displaying the frame, identify

one or more elements on which the first element collaterally depends, the instructions to compare

includes instructions to compare the edit sequence position associated with the cached frame to

the edit sequence information associated with the one or more identified elements (col. 5 lines 25-65, col. 15 lines 10-55, col. 16 lines 25-67, col. 17 lines 45-67, and col. 18 lines 54-67).

As to claim 27, Miller teaches the product of claim 5, further comprising instructions to: validate the cached frame when the edit sequence position associated with the cached frame specifies an edit that is as or more recent than an edit specified by the current edit sequence position specified recent as by the edit sequence information for the interval of the element's timeline (col. 5 lines 25-65, col. 16 lines 25-67, col. 17 lines 45-67, and col. 18 lines 54-67).

As to claims 28-37, 39-43, and 45-50, they are method claims of product claims 5-14, 16-20, and 22-27. Note the rejections of claims 5-14, 16-20, and 22-27 above respectively.

Allowable Subject Matter

7.   Claims 4, 15, 21, 38, and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8.   The following is a statement of reasons for the indication of allowable subject matter:

The prior art either alone or in combination does not teach the limitations in claims 4, 15, 21, 38, and 44 of sorting the series of pair (interval, timestamp) in ascending order of intervals; except the last listed interval of the interval list, each interval of the interval list is delimited by its start time and the start time of the subsequent interval; the interval list of an element includes a first array and a second array that is parallel to the first array, the first array including start

times and the second array including integers representing edit sequence positions and in

combination with the other claimed features.

Response to Arguments

9.   Applicant's arguments with respect to claims 1-4 have been considered but are moot in

view of the new ground(s) of rejection.

10.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Conclusion

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Truc T Chuong whose telephone number is 703-305-5753. The

examiner can normally be reached on M-Th and alternate Fridays 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kristine L. Kincaid can be reached on 703-308-0640. The fax phone number for the

organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-305-3900.

Truc T. Chuong

10/31/03

STEVEN SAX
PRIMARY EXAMINER